

# Valtellina mountain community of Morbegno

## *A virtuous example towards Europe2020*

SOTA AND FUTURE  
OF  
ITALIAN LOCAL ACTIONS



Co-funded by the Intelligent Energy Europe  
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Comunità Montana di Morbegno



# CMM & BEAST

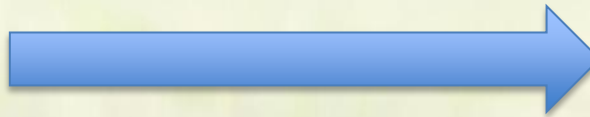
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A collective effort for the **reduction** of at least **20% of CO2 emissions** within 2020 CMM is coordinating municipalities for the implementation of local energy actions.

Selected for each BEAST cluster

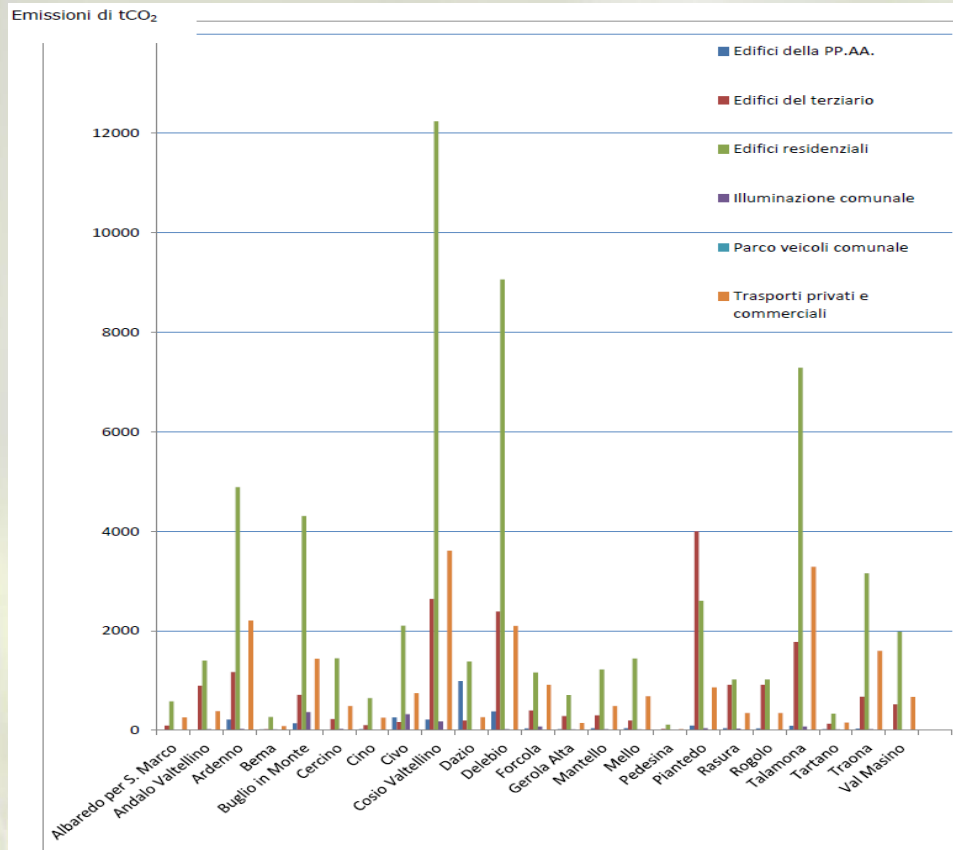
- Sustainable mobility (**STEER**) – *Valtellina Cycle Lane Ring Connection*
- Energy efficiency (**SAVE**) – *Energy Efficiency Improvement of CMM Central Office*
- Renewable energy production (**ALTENER**) – *Low Impact Hydropower Plant On The Aqueduct Pipeline*



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# Co2 emissions: some data



total energy and emissions saving (sum of the actions taken until 2013 and the actions to be undertaken within 2020)	2020 Reduction in consumption [MWh]	Production of energy from renewable sources by 2020 [MWh]	Reduction of CO2 emissions by 2020 [t]
BUILDINGS, EQUIPMENT / FACILITIES AND INDUSTRIES	18.235,86	0,00	4.462,46
TRANSPORTS AND MOBILITY	1.453,68	72,00	391,88
LOCAL PRODUCTION OF ELECTRICITY	0,00	80.949,01	31.024,06
HEATING / COOLING, CHP, SOLAR THERMAL	1.177,36	3.709,74	1.342,95
SPATIAL PLANNING	0,00	0,00	0,00
GREEN PUBLIC PROCUREMENT	0,00	0,00	0,00
STAKEHOLDER INVOLVEMENT	0,00	0,00	0,00
<b>Total</b>	<b>20.866,90</b>	<b>84.730,75</b>	<b>37.221,35</b>



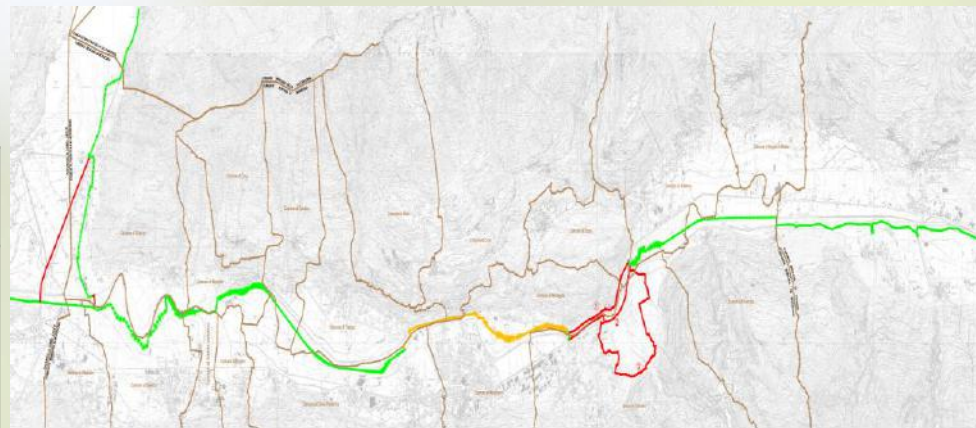
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# Local actions – STEER



<b>Action :</b>	<b>Valtellina Cycle Lane Ring Connection</b>
<b>Short description of action:</b>	Completion of a cycling lane on the valley floor and connection to the Valtellina path, including:  -Environmental improvement of an green area situated in “Bosca Park” and realisation of little bridges over the Bitto stream and Adda river  -Several works aimed at completing the cycle lane connection in few municipalities of the Valley.
<b>Organisation initiating action (local action owner):</b>	Valtellina mountain community of Morbegno
<b>Partners for action implementation:</b>	- Public tender for works implementation -Financial collaboration with some municipalities -Lombardy Region
<b>Investment in action (in EUR):</b>	About € 900.000

Works begun on May 2014 and terminated on June 2015.

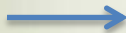


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# Local actions – STEER

In Morbegno area  around 24.000 inhabitants | Fuels Price € 1,50/liter

## The estimated costs benefits in terms of

Replace car with bike in a year	
Daily traveling by bike instead of the car	10 Km
Number of weeks in a year that the bike could replaces car	20 weeks
End power car replaced the bike	Up to 100 kW
Type of fuel used the car replaced the bike	Petrol

Savings/€	
Savings in one year	About 210.0 Euro
Savings on each trip	About 1.5 Euro

In addition, supposing to save each day about 1 liter of fuel, if the estimated 1% of population located in the area will use each day the now ended cycle lane, 33600 liter of fuel will be saved in a year, benefiting from the cycle lane just per 20 weeks.



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# Local actions – ALTERNER

<b>Action:</b>	<b>Low Impact Hydropower Plant on the Aqueduct Pipeline</b>
<b>Short description of action:</b>	<ul style="list-style-type: none"> <li>- Plant for electric power production from anaerobic digestion of sewage and other organic waste</li> <li>- Low Impact Hydropower Plant</li> </ul>
<b>Expected investment in action (in EUR):</b>	€ 950.000,00 = € 600.000,00 for pipeline refurbishment + € 350.000,00 for hydropower plant
<b>Expected energy savings from action (in MWh - if applicable):</b>	6.98 Mwh per year
<b>Expected increase in renewable energy production (in MWh - if applicable):</b>	0.999 MW
<b>Expected reduction of GHG-emissions (in CO<sub>2</sub>-equivalents):</b>	4.000 ton/year CO2



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# Local actions – ALTERNER

## PROBLEM TO SOLVE

Frequent water service interruption during summertime and the presence of several water losses

## GOAL

To produce RES for public use, guarantying an annual rent of about € 80.000 for the forthcoming 20 years.



The hydropower plant will be implemented on the aqueduct, exploiting the altitude gap from the surge to the plant of 392.5 m

It will take 180 days to be completed and costs € 950.000



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# Beside ALTERNER

The CMM territory has several biomass plant offering several advantages  
(e.g. biomass plant of Gerola Alta):

- RES production from local supply
- constant maintenance of surrounding woods and forests, good for environment and tourism purposes,
- opportunity of green jobs for local inhabitants



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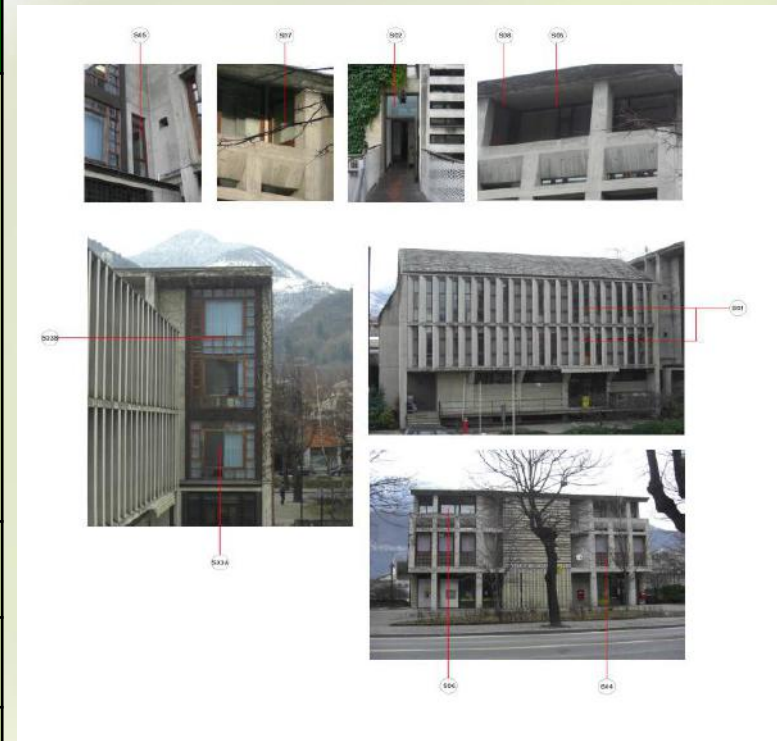
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# Local actions – SAVE

<b>Action :</b>	<b>Energy efficiency Improvement of CMM Central Offices</b>
<b>Short description of action:</b>	<p>The project includes:</p> <ul style="list-style-type: none"> <li>-replacement of actual wooden windows and doors of the building where is based the offices of the Mountain Community with aluminium ones</li> <li>-installation of innovative solar shading systems able to produce photovoltaic energy through thin-film technology</li> <li>-partial coating of the south facade with special panels for the acoustic and thermal insulation, integrated with cells of monocrystalline silicon able to produce photovoltaic energy</li> <li>-installation of a photovoltaic plant</li> </ul>
<b>Organisation initiating action</b>	Comunità Montana Valtellina di Morbegno Valtellina mountain community of Morbegno
<b>Action implementation:</b>	<b>NEW</b> Feasibility study on <b>passive houses</b>
<b>Status of cooperation with action partner(s)</b>	Cooperation agreements with a local company which have developed the innovative panels
<b>Expected investment in action (in EUR):</b>	€ 740.000
<b>Expected energy savings from action (in MWh - if applicable):</b>	The estimate energy saving cost is about of €20.048,40 per year
<b>Expected increase in renewable energy production</b>	Annual foreseen production about 3,73 MWh



The payback period would be of 37 years!



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# Local actions – SAVE

CMM obtained the positive response for take out the mortgage financing the project

BUT

The payback period would be of 37 years!



CMM commissioned new feasibility study on  
Passive House

GOALS:

- To save more energy
- To create a unique example of energy saving architecture design in the valley.



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# From BEAST to EU2020: lessons learned

## ***INTERNATIONAL MEETINGS***

facilitating the exchange of experiences also by visiting energy plants;

## ***JAM SESSIONS***

an alternative way to bring together different stakeholders, finding solutions to overcome barriers which affect the effective implementation of energy projects;

## ***REGIONAL WORKSHOPS***

occasions for capacity building at local level;

## ***BUSINESS PLANS***

the real challenge for a public entity, that offer the opportunity to consider energy project from the business point of view, analysing aspects which are often ignored such as the pay-back period, threats to expect and opportunities offered by an energy project.



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# Starting from BEAST ... something to take into account from the macro to the micro level

1. Business driven actions able to guarantee the sustainability of the entire project during the time.
2. The stakeholders involvement since the very beginning (e.g. project design phase) is important to avoid delay during the project implementation phases.
3. To cooperate at European level in order to reach such strategic energy goals (BEAST as a European model that could be replicate in other similar mountain contests as a best practice energy efficiency project).



Thank you for your attention!

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